# PCT

# WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISI	HED	INDER THE PATENT COOPERATION TREATY (PCT)
(51) International Patent Classification <sup>6</sup> :	A3	(11) International Publication Number: WO 99/367
G08B 13/14, 13/24		(43) International Publication Date: 22 July 1999 (22.07.
(21) International Application Number: PCT/US (22) International Filing Date: 13 January 1999 ( (30) Priority Data: 09/006,160 13 January 1998 (13.01.98) (71) Applicant: TECSEC, INCORPORATED [US/US]; S 1953 Gallows Road, Vienna, VA 22182 (US). (72) Inventor: WACK, C., Jay; 13715 Lewisdale Road, Cl MD 20871 (US). (74) Agent: CHAMPAGNE, Thomas, M.; Rabin & Chi P.C., Suite 1111, 1725 K Street, N.W., Washing 20006 (US).	13.01.9 Usuite 22 arksbu	BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GG, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MM, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZEurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TEuropean patent (AT, BE, CH, CY, DE, DK, ES, FI, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, TD, TG).  Published  With international search report.
		(88) Date of publication of the international search report: 7 October 1999 (07.10

(54) Title: RF IDENTIFICATION PROCESS AND APPARATUS

### (57) Abstract

An RF identification system, including an identification tag having a unique RF signature, a source for generating RF energy, and a detector for reading the signature when the identification tag is illuminated the RF energy generated by the source. The identification tag includes a base formed from an electrically non-conductive material and metal particles distributed randomly in the base. Detected signatures may be stored for later comparison against detected signatures for identification purposes. Biometric data may be read and associated with corresponding signatures to identify and link objects with persons.

# FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	<b>IL</b>	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

## INTERNATIONAL SEARCH REPORT

International application No. PCT/US99/00814

IPC(6) US CL	SSIFICATION OF SUBJECT MATTER  : G08B 13/14, 13/24  : 340/572.1, 551  to International Patent Classification (IPC) or to both	national classification and IPC			
B. FIEL	DS SEARCHED				
Minimum d	ocumentation searched (classification system followe	d by classification symbols)			
<b>U.S</b> . :	340/572.1, 551, 825.54, 825.3; 235/384, 385, 375				
Documentat	tion searched other than minimum documentation to the	e extent that such documents are included	in the fields searched		
NONE					
Electronic o	data base consulted during the international search (n	ame of data base and, where practicable	e, search terms used)		
APS search ter	rms: RF, infrared, electromagnetic, identification tag	, metal particles, and biometric			
c. Doc	UMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.		
X	US 5,689,239 A (TURNER et al) 18 N and 9.	November 1997, columns 4, 7	1-3, 7-8, 13-15, 20-21		
Y		:	4-6, 9-12, 16-19, 22-23		
Y	US 4,857,891 A (HELTEMES) 15 Au	igust 1989, figure 1.	4-5, 22-23		
Y	US 4,647,917 A (ANDERSON, III et	ai) 3 March 1987, col. 1-2.	9, 16		
Y	US 5,661,457 A (GHAFFARI et al) 2	6 August 1997, col. 5-8.	10-12, 17-19		
A	US 5,317,309 A (VERCELLOTTI et	al) 31 May 1994, col. 2.	1-23		
			,		
X Further documents are listed in the continuation of Box C. See patent family annex.					
Special categories of cited documents:     T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand.					
	cument defining the general state of the art which is not considered be of particular relevance	the principle or theory underlying the	invention		
	rlier document published on or efter the international filing date	"X" document of particular relevance, the considered novel or cannot be considered to the considered t			
cit	cument which may throw doubts on priority claim(s) or which is ad to establish the publication date of another citation or other	"Y" document of particular relevance; the	claimed invention cannot be		
'O' do	ecial reason (as specified)  cument referring to an oral disclosure, use, exhibition or other  ears	considered to involve an inventive combined with one or more other such being obvious to a person skilled in the	step when the document is documents, such combination		
·P· do	cument published prior to the international filing date but later than a priority date claimed	'&' document member of the same patent	family		
Date of the	actual completion of the international search	Date of mailing of the international sea	reh report		
13 JULY	1999	17 AUG 1999			
Name and I	Name and mailing address of the ISA/US Commissioner of Patents and Trademarks  Authorized officer				
Box PCT	n, D.C. 20231	JEFFERY HOFSASS	u nuti		
_	(o. (703) 305-3230	Telephone No. (703) 305-4717			

### INTERNATIONAL SEARCH REPORT

International application No. PCT/US99/00814

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
.	US 5,650,768 A (ESWARAN) 22 July 1997, col. 2-3.	1-23
	•	
-		
Ì		
•		
Ì		